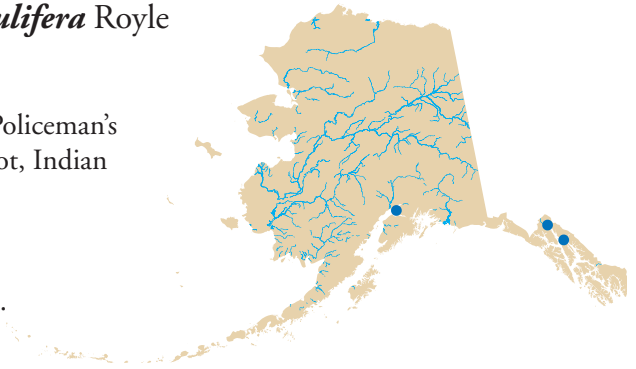
Ornamental Jewelweed

Impatiens glandulifera Royle



Alternate Names

Himalayan balsam, Policeman's helmet, Touch-me-not, Indian jewelweed

Synonyms

Impatiens roylei Walp.

Description

USDA Forest Service photo by Tom Heutte

Ornamental jewelweed is an herbaceous annual plant growing from 3–6 feet tall. Stems are erect, hollow, smooth, and hairless. Stems are also reddish and multi-branched, with large, swollen nodes. The large, simple, oblong, and ovate to elliptic leaves are oppositely arranged, although occasionally a whorl of three leaves is formed. Leaves are about 6 inches long, 3 inches wide, and sharply toothed. One-inch long flowers are arranged in sparse clusters from the leaf axils and are irregular, having 5 petals of which 2 are fused together. Flower color ranges from white to pink to purple to red. The fruit is a capsule that explodes at touch when ripe, ejecting large, black seeds that are ¼–½ of an inch wide.

Similar Species

Ornamental jewelweed could be confused with jewelweed (*Impatiens noli-tangere* L.), a common native wildflower. Jewelweed can be distinguished from the exotic species by its yellow flowers, more coarsely serrated teeth on its leaf margins, and much smaller size

Ecological Impact

Ornamental jewelweed is able to reduce the growth of native plant species and eventually replace them through aggressive competition, thereby forming dense stands (King County DNR 2004, Prots and Klotz 2004). The presence of jewelweed alters the composition and behavior of pollinating insects. Pollinators include several species of bumblebee, honeybee, moth, and wasp (King County DNR 2004, Chittka and Schürkens 2001, Beerling and Perrins 1993). Ornamental jewelweed also negatively impacts habitat for wildlife species. High water-insoluble carbohydrate content causes the stems to persist as litter the following spring, which suppresses competing seedlings of other species (Beerling and Perrins 1993). At high densities, this plant can alter water flow, increasing erosion and flooding (King County DNR 2004).

USDA Forest Service photo by Tom Heutte

Ornamental jewelweed infestation on a beach meadow in Southeast Alaska.

Biology and Invasive Potential

Ornamental jewelweed reproduces entirely by seeds. An individual plant can produce from 800 to 2,500 seeds, which are viable for 18 months or more and can germinate underwater (King County DNR 2004). For successful establishment it requires a moderate amount of local disturbance and exposed ground (Beerling and Perrins 1993). The seeds are ejected from mature capsules for up to 20 feet, and they can also be dispersed along waterways and by small mammals (King County DNR 2004). Rate of linear spread in Britain was estimated to be 1 to 3 miles per year (Beerling and Perrins 1993). Ornamental jewelweed is frequently sold or shared as a garden ornamental (King County DNR 2004) and is widely planted in gardens of southcentral and southeast Alaska. The seeds require cold-

stratification to break dormancy, and germination usually occurs in late spring. Best germination response occurs when seeds are stored at 41°F (King County DNR 2004, Beerling and Perrins 1993, Mumford 1988). Ornamental jewelweed is tolerant of many types of soil, including fine and coarse stream-deposited sediments, free-draining mineral soils and peats, and both nutrient-rich and nutrient-poor soils. Acceptable soil pH conditions range from 3.4 to 7.7, and it is partially shade-tolerant. Plants of all ages are sensitive to frosts (Beerling and Perrins 1993). Ornamental jewelweed is listed as a noxious weed in British Columbia and Washington.

Distribution and Abundance

Ornamental jewelweed is native to the Himalayan region of Asia. In other areas, it has escaped garden cultivation to invade many areas, predominantly river edges, riparian areas, and wetlands, and can also be found in forests, roadsides, yards, and gardens. It thrives in riparian zones, where seeds spread quickly downstream. In Alaska, patches of ornamental jewelweed have been found outside of cultivation in Juneau and Anchorage, and an acre-sized infestation was documented in a beach meadow in Haines in 2004 (AKEPIC Database 2004). This species is currently distributed throughout southern British Columbia.

USDA Forest Service photo by Michael Shephard

Leaves and stem of ornamental jewelweed.

Management

Mechanical methods such as pulling, mowing, or cutting have been successful in eradicating stands of ornamental jewelweed. Such methods should be completed before seed is set, and care should be taken when cutting plants. Unless the plant is cut below the lowest node, it will regrow and

flower later in the season, and so a single cut is only effective if made very close to the soil level. Small infestations can be controlled by hand-pulling as the plant is shallow rooted. Regular mowing will also control this plant even if the cutting level is above the lowest node, provided the frequency is sufficient to prevent the formation of flowers and seeds. Mowing is likely to be effective only in those locations where good access is available and the ground is smooth enough for close mowing. Herbicides have been effective in controlling ornamental jewelweed, especially if applied before flowering. Ornamental jewelweed should be sprayed in the spring before flowering but late enough to ensure that germinating seedlings have grown up sufficiently to be adequately covered by the spray. If working in or near a wetland, make sure to select an herbicide approved for that use. No specific biological control agents are known to control ornamental jewelweed.

USDA Forest Service photo by Tom Heutte

Notes

Ornamental jewelweed is considered invasive in the British Isles, where it is naturalizing along river valleys, but in 1938 the famous Irish naturalist Praeger described this plant as rare and cited the shores of Lough Neagh as one of its sites. One of its common names, coined in the 1950s, is "policeman's helmet," which refers to the flower's resemblance to an English police helmet. Recent research by German botanists has shown that it competes successfully with native riverbank species for pollinators like bumblebees, reducing seed set in these other plants. This success can be attributed to abundant nectar production.